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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,202	11/12/2003	Randall J. Huebner	ACM 352	8269
23581	7590	08/02/2006	EXAMINER	
KOLISCH HARTWELL, P.C. 200 PACIFIC BUILDING 520 SW YAMHILL STREET PORTLAND, OR 97204			CUMBERLEDGE, JERRY L	
			ART UNIT	PAPER NUMBER
			3733	

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,202	<b>Applicant(s)</b> HUEBNER ET AL.	
	<b>Examiner</b> Jerry Cumberledge	<b>Art Unit</b> 3733	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/13/06; 11/23/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-17 and 20-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Schenk (US Pat. 6,048,344).

Schenk discloses a bone screw for compression of a bone comprising: a shank (top Fig. 4, below) including a thread (Ref. 61, Fig. 4, below) and a head (top Fig. 4, below) connected to the shank. The head includes a lateral surface (top Fig. 4, below) defining a plurality of ledge structures (bottom Fig. 4, below) and one or more intervening surface regions (bottom Fig. 4, below) disposed between the ledge structures.

The shank defines an axial vector extending from the shank toward the head, wherein the plurality of ledge structures and the one or more intervening surface regions extend at an angle from the axial vector, wherein the angle is greater for the plurality of ledge structures than for the one or more intervening surface regions. The angle is at least 90 degrees for the ledge structures. The definition of angle as defined by The American Heritage Dictionary of the English Language, Fourth Edition, is "the figure formed by two lines diverging from a common point." An axial vector can be placed through the device, and depending on where the common point is placed along the axial

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vector, a plurality of angles can be arranged along the axial vector, some in excess of 90 degrees.

The plurality of ledge structures are disposed circumferentially on the head (top Fig. 4, below). The shank has a proximal portion (top Fig. 4, below) adjacent the head and a distal portion (top Fig. 4, below) spaced from the head, wherein the thread is restricted to the distal portion (top Fig. 4, below). The thread defines an opening (top Fig. 4, below). The shank includes a tip region (top Fig. 4, below). The ledge structures are defined by at least one of a plurality of ridges and a plurality of grooves (bottom Fig. 4, below).

The ledge structures define spaced circumferential paths (top Fig. 4, below), wherein at least one of the ledge structures extends continuously along its circumferential path (top Fig. 4, below). The ledge structures are spaced from each other and extend around the circumference of the shaft, hence they define spaced circumferential paths.

At least one ledge structure describes a complete circle. The ledge structures extend 360 degrees around the shaft, hence they describe a complete circle. The at least one ledge structure defines a portion of a circle. Since at least one ledge structure defines a whole circle, the at least one ledge structure defines a part of a circle. The diameter of the plurality of ledge structures decrease successively toward the shank (top Fig. 4, below). The lateral surface generally describes a frustum of a cone (top Fig. 4 below). The head includes a plurality of steps defined by stepwise decreases in the diameter of the head. The outermost flat surfaces of the ledges can be considered the

steps, and they decrease in a stepwise manner from the one end of the screw to the other end (top Fig. 4 below). At least one of the plurality of ledge structures is included in an annular tooth, formed by flanking surface regions of the lateral surface that join at a rim (Fig. 1 below), the rim being disposed closer to the shank than the flanking surface regions. The shank and the head define opposing ends of the bone screw and further define an axial bore (Ref. 70, top Fig. 4, below) extending between the opposing ends. The head is rotatably and or slideably connected to the shank, since it is removable (column 5, lines 29-31). Each ledge structure describes at least a portion of a circle. The head is generally frustoconical in shape (top Fig 4, below).

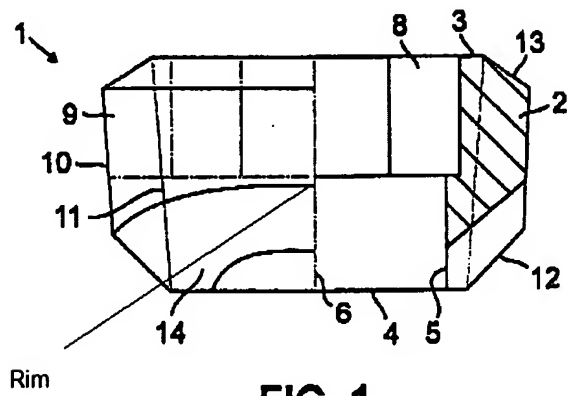
Regarding claims 26 and 27, placing an axis in a diagonal direction through the head, from an upper edge near the top of the screw to a lower edge on an opposite side of the screw head, would yield an axial length that is always longer than the diameter of the screw head. This would mean that the aspect ratio of the axial length and the maximum diameter of the screw head would always be at least 1:1.

The bone screw of Schenk can perform a method of compressing a bone with a bone screw, comprising: forming a hole in the bone; selecting a bone screw having a shank and a head; and advancing first the shank and then the head of the bone screw into the hole so that the head contacts and applies an axial force selectively to a plurality of spaced regions of the bone, such that portions of the bone near the head are compressed toward portions of the bone near the shank. The spaced regions are separated by interposed regions of the bone, wherein the step of advancing also applies an axial force to the interposed regions, the axial force applied to the interposed regions

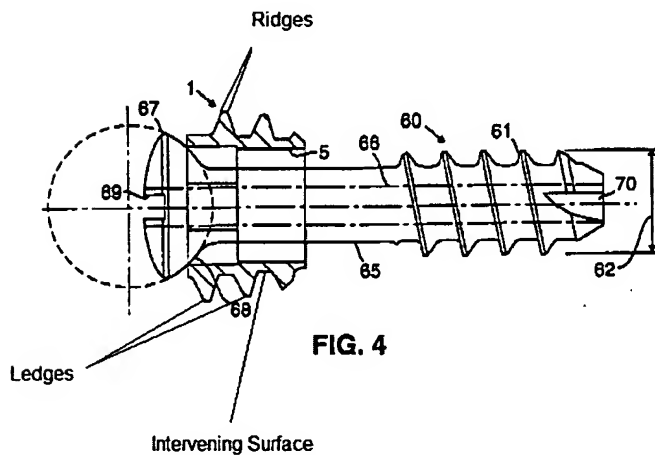
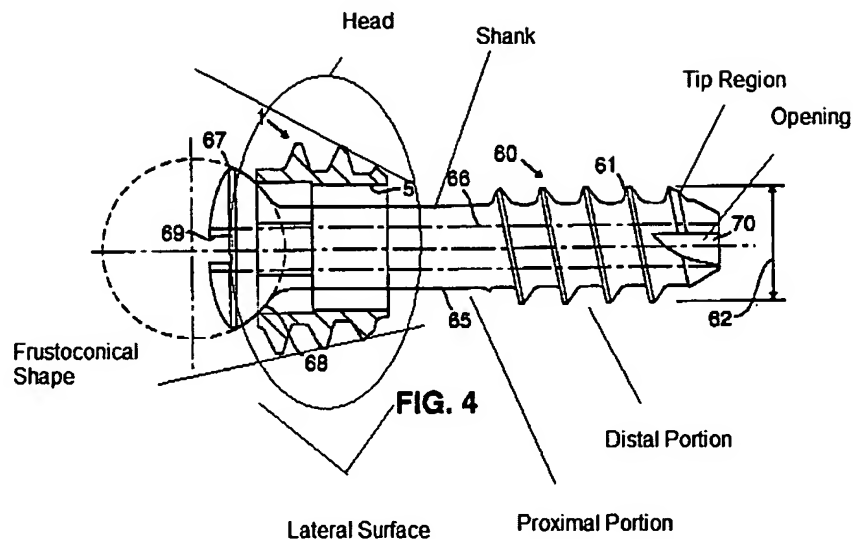
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being less than the axial force applied to the plurality of spaced regions. The step of advancing also applies no substantial axial force to the interposed regions. The step of forming a hole includes forming a bore and a counterbore, and wherein the step of advancing the bone screw disposes the head and the shank at least substantially in the counterbore and the bore, respectively. The step of forming a hole is performed by the step of advancing a bone screw. The portions of the bone near the head and the portions of the bone near the shank are initially separated by a fracture in the bone.

With regard to the statements of intended use and other functional statements (e.g. ...configured to exert an axial force..., ...configured to apply a greater axial force..., ...configured to flow the shank...), they do not impose any structural limitations on the claims distinguishable over the screw of Schenk, which is capable of being used as claimed if one so desires to do so. *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Furthermore, the law of anticipation does not require that the reference "teach" what the subject patent teaches, but rather it is only necessary that the claims under attack "read on" something in the reference. *Kalman v. Kimberly Clark Corp.*, 218 USPQ 781 (CCPA 1983). Furthermore, the manner in which a device is intended to be employed does not differentiate the claimed apparatus from prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).



**FIG. 1**



### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and



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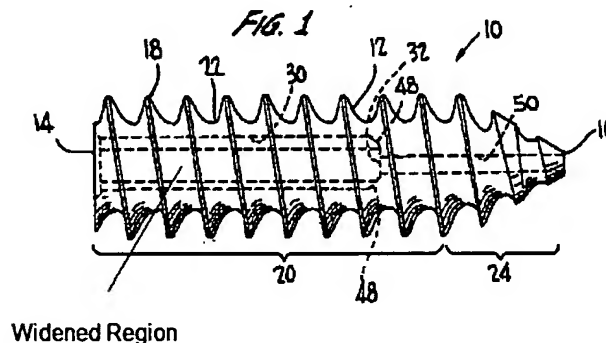
the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk (US Pat. 6,048,344) in view of Ross et al. (US Pat. 5,470,334).

Schenk discloses the claimed invention except for the axial bore including a widened region.

Ross et al. discloses an axial bore having a widened region (Fig. 1, below), for receiving a rotatable driver (column 4, lines 50-54).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified the axial bore of Schenk with the widened region of Ross et al., in order for the screw to receive a rotatable driver (column 4, lines 50-54).



Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schenk (US Pat. 6,048,344).

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Schenk discloses the claimed invention except for the head being fixedly connected to the shank. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fixedly attach the head to the shank, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

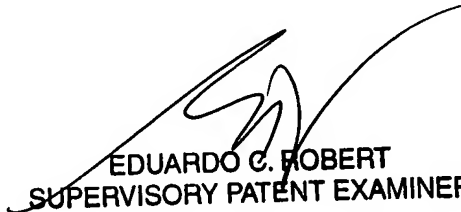
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Cumberledge whose telephone number is (571) 272-2289. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on (571) 272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLC



EDUARDO C. ROBERT  
SUPERVISORY PATENT EXAMINER